

U.S. DEPARTMENT OF ENERGY
NEVADA OPERATIONS OFFICE

MANUAL

NV M 200.X

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**MANUAL FOR INCORPORATING
INFORMATION TECHNOLOGY (IT) INTO
PROGRAMS AND PROCESSES**



INITIATED BY:
Communication Services Division

MANUAL FOR INCORPORATING INFORMATION TECHNOLOGY (IT) INTO PROGRAMS AND PROCESSES

NV M 200.X

2-2-00

1

1. OBJECTIVE.

This Manual is designed to assist users in understanding and making use of the procedures required to identify and request the information technology needed to better support business processes and functions. It also provides the details of the process utilized to prioritize IT work requests.

The processes defined in this Manual support the mission of the Communication Services Division (CSD) to effectively manage information technology programs and efficiently deliver products and services that best enable DOE Nevada Operations Office (DOE/NV) programs and activities.

2. CANCELLATION. None.

3. APPLICABILITY. This Manual applies to DOE/NV federal employees only.

4. RESPONSIBILITIES.

a. Chief Information Officer.

- (1) Requests descriptions of IT needs from all organizational units.
- (2) Compiles requests and provides them to the support services contractor for conceptual review.
- (3) Develops master project list for requests.
- (4) Presents the work request list to the IT Working Group for prioritization.
- (5) Presents the work request listing to the Assistant Manager for Business & Financial Services.
- (6) Notifies requesting organizations of acceptance/rejection and/or prioritization of request.

b. IT Working Group. Obtains consensus on prioritization of project list submitted to them.

MANUAL FOR INCORPORATING INFORMATION TECHNOLOGY (IT) INTO PROGRAMS AND PROCESSES

NV M 200.X

2-2-00

2

- c. Supervisors and Managers. Determine which problems need to be addressed and contact CSD for assistance as necessary.
- d. Assistant Manager for Business & Financial Services. Determines the extent of contractual value (support) authorized based on estimated cost of projects on priority list.
- e. Division Directors. Provide a prioritized listing, including justifications of IT needs beyond normal operational support to CSD annually as requested.
- f. All DOE/NV Employees. Bring potential business problems that may be solved through the utilization of IT to the attention of DOE/NV supervisors and managers.

5. PROCESS.

- a. IT Strategic Background. DOE/NV is required by law to ensure that technology investments are aligned to Department, Program, and site information architectures. A DOE/NV information architecture is being developed and will be a major activity that must be continuously managed. The appointment of an information architect will help to:
 - (1) Ensure that information technology solutions (e.g., designs, developments, acquisitions, and implementations) support site business mission needs.
 - (2) Implement initiatives to effectively apply information technology in the improvement of DOE/NV business processes.
- b. IT Incorporation Process. The following provides a standard method for incorporating IT into programs and processes, including planning and control, which are necessary for successful projects. CSD and the support contractor are available to provide support during all phases of the process, but should be directly involved no later than the Requirements Analysis phase.
 - (1) Problem Identification.

Identify the business “problem” by asking yourself:

MANUAL FOR INCORPORATING INFORMATION TECHNOLOGY (IT) INTO PROGRAMS AND PROCESSES

NV M 200.X
2-2-00

3

- What business requirement or need are you trying to meet?

A successful IT project is linked to the organization's business plan and satisfies a business objective by solving a business problem.

- (2) Business Process Identification. Identify the business processes the problem impacts. Ask yourself the following questions:

- (a) What is the core process (or processes)?
- (b) Are there any "supporting" processes?
- (c) Will new processes need to be developed to solve the problem?
- (d) Have I identified all groups that may be impacted by the problem or its solution and involved them?

- (3) Business Process Analysis.

Analyze the processes. Ask yourself the following questions:

- (a) Can they be changed or streamlined to help solve the problem?
- (b) If new processes are required, what can be done to ensure that they are as efficient as possible?
- (c) What are the "information items?" Look at your current forms and screens. What elements do they contain? User name? Dates?
- (d) Who are the participants in the process and what are their roles?
- (e) What supports the current process (hardware, software, forms, reports)?

During this phase, it is important to get sufficient information to develop and support the next phase.

MANUAL FOR INCORPORATING INFORMATION TECHNOLOGY (IT) INTO PROGRAMS AND PROCESSES

NV M 200.X
2-2-00

4

- (4) Requirements Analysis. Requirements analysis is the process of identifying needs and determining what to build into a solution. Ask yourself the following questions:
- (a) How many Government/contractor employees will use the solution? Should the system accommodate simultaneous users?
 - (b) What and where are the locations of the employees who will use the solution?
 - (c) What are the security or access control requirements, can any user access and enter information into the system?
 - (d) What Departmental standards or guidance the solution must comply with?
 - (e) Any special training requirements?
- (5) Technology Assessment.

Investigate potential solutions. Determine if the problem can be solved with technology. Balance “ideal” technical solutions and project scope against deadlines and priorities to find the best compromise (seek *solutions*, not perfection). Ask yourself the following questions:

- (a) Are there existing local applications that can be modified or used as is?
- (b) Can a solution be found at other U.S. Department of Energy sites?
- (c) Can the problem be resolved using commercial off-the-shelf (COTS) software (a spreadsheet, database, or other application)?
- (d) Is the problem so unique that an application must be developed?

As a general rule of thumb, you should think about reusing before buying and buying before building.

MANUAL FOR INCORPORATING INFORMATION TECHNOLOGY (IT) INTO PROGRAMS AND PROCESSES

NV M 200.X

2-2-00

5

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- (6) Solution Identification. Identify a solution. Consider the following during solution identification:
- (a) Budget. Do you have money in your budget to buy or build a solution and a commitment to support the entire life cycle of the solution?
 - (b) Cost.
 - 1 Analysis of benefits and cost.
 - 2 Resources. How much does the software cost? Will it run on existing hardware or will additional hardware need to be purchased?
 - 3 Support. Consider local support and the cost of maintenance agreements. Most automated systems cost five times the initial cost to support over the life cycle of the system.
 - (c) Current Infrastructure.
 - 1 Hardware
 - 2 Software
 - 3 Compatibility issues
 - 4 Capacity planning
- c. Project Team. Technical solutions to business problems require a project team that is made up of business area experts, business area management (in an oversight role), technical area management, and technical area experts.
- (1) Business and technical experts must meet frequently throughout the cycle of the project to ensure that:
 - (a) Requirements are clearly defined and agreed to.

MANUAL FOR INCORPORATING INFORMATION TECHNOLOGY (IT) INTO PROGRAMS AND PROCESSES

NV M 200.X
2-2-00

6

- (b) Scope is clearly understood, documented, and agreed to by management.
 - (c) A project plan is used to determine resource needs.
 - (d) The project is broken down into meaningful subprojects.
 - (e) Business goals are translated into project goals and project goals are broken down into the detailed tasks to be performed.
 - (f) Project tasks are proceeding according to the schedule.
 - (g) The IT solution is properly implemented.
 - (h) Project close out documentation is completed.
- (2) Business and technical management must also be involved in the project to provide direction and problem resolution. In addition they must:
 - (a) Consider the project within the broader context of how the business and technology will be changing over the next few years.
 - (b) Use their understanding of the business and technical issues to prioritize projects and anticipate their impact on other business units and systems.
- d. IT Support Background. CSD provides IT support for approximately 500 network clients. This support accommodates DOE/NV federal, other contractor, and IT support services contract personnel with a desktop computer, a standard suite of business software, network support, and suite training. The IT support services contractor currently employs programmers and programmer/system analysts to design and construct custom solutions when COTS software is not available or feasible for solving the requirement of the customer. Because of limited programming resources, DOE/NV must take an active roll in establishing programming priorities and evaluating the business need versus cost for software development. Accordingly, the following process has been established to ensure the most effective use of limited resources.

MANUAL FOR INCORPORATING INFORMATION TECHNOLOGY (IT) INTO PROGRAMS AND PROCESSES

NV M 200.X

2-2-00

7

- e. Work Request Prioritization Process. The steps below will be followed to prioritize work requests:
- (1) At the beginning of each fiscal year, all DOE/NV organizations will be asked to provide a description of needs beyond the standard IT support, to include software development, accompanying hardware, special training needs, and “work-for-others.” Each organization will be expected to prioritize these requirements by project. Organizations will also be expected to submit a justification for each project that will provide the basis for acceptance and overall prioritization.
 - (2) The Chief Information Officer (CIO) will compile the requests and obtain cost estimates for each project through a conceptual review.
 - (3) The CIO will establish a preliminary (recommended) order of prioritization for projects to best meet DOE/NV’s mission objectives consistent with programmer resource leveling.
 - (4) The CIO will present the project list to the IT Working Group, comprised of one representative from each Assistant Manager area, to obtain consensus on the prioritization that was established by CIO.
 - (5) The prioritized listing with cost estimates will be compared to available funding to determine the “cutoff point.”
 - (6) The CIO will notify requesting organizations of the prioritization and funding decision.
- f. Out of Cycle Work Requests. Will not be considered for action until the following fiscal year unless the CIO, IT Working Group, and the Assistant Manager for Business & Financial Services concur that the action can not wait until the next business cycle. If it is determined to be critical, the working group will reprioritize remaining efforts and the lowest priority stakeholder(s) will be notified that their work will not be accomplished in that year and will be required to resubmit their request in the following year.

MANUAL FOR INCORPORATING INFORMATION TECHNOLOGY (IT) INTO PROGRAMS AND PROCESSES

NV M 200.X

8

2-2-00

6. CONTACT. Questions concerning this Manual should be addressed to the CSD, (702) 295-3541.



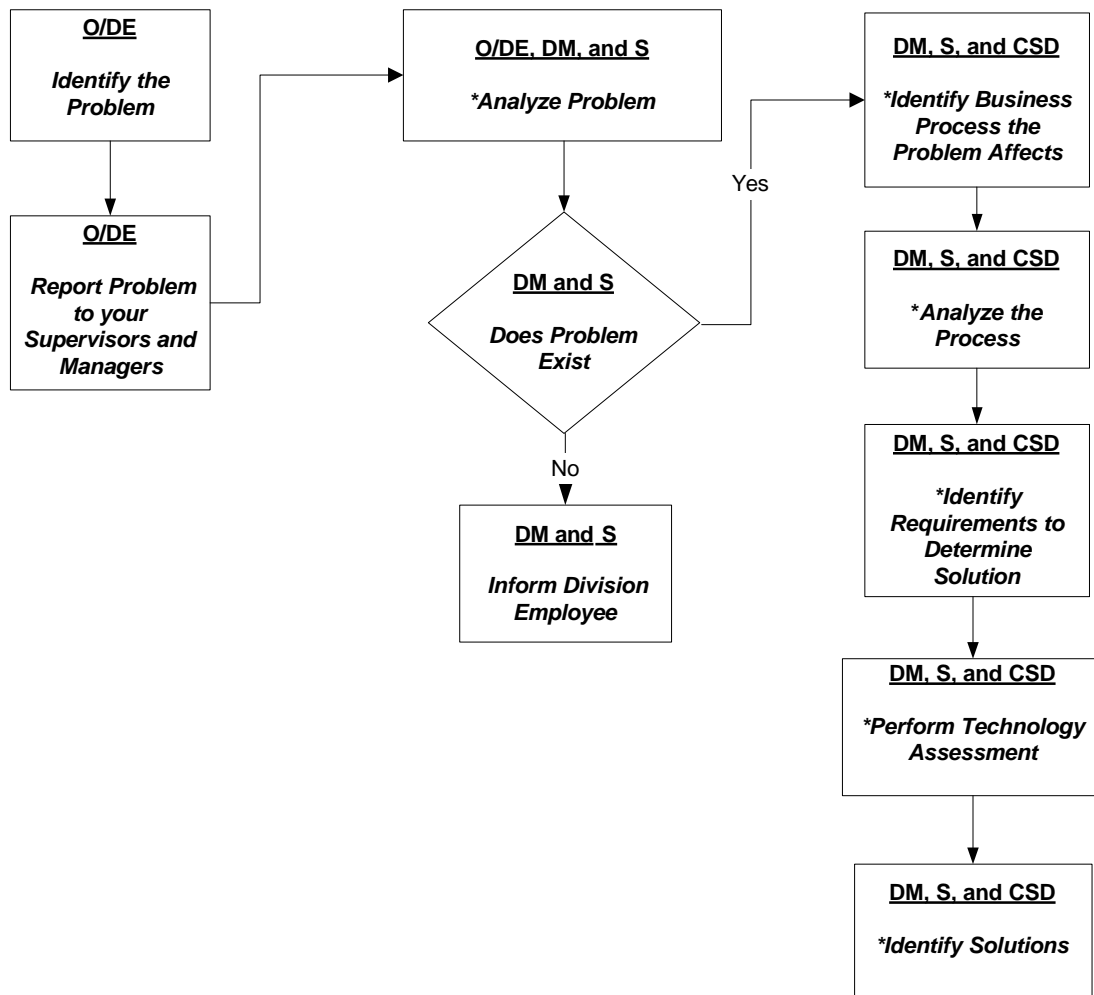
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Manager

MANUAL FOR INCORPORATING INFORMATION TECHNOLOGY (IT) INTO PROGRAMS AND PROCESSES

NV M 200.X
2-2-00

Attachment 1
Page 1 (and 2)

FLOWCHART FOR INCORPORATING INFORMATION TECHNOLOGY INTO PROGRAMS AND PROCESSES



Legend

O/DE = Office/Division Employee
DM = Division Manager
S = Supervisor
CSD = Communication Services Division

*The IT Support Services Contractor can provide assistance with these areas. Contact CSD to arrange Contractor Support.